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ELECTROMAGNETIC SURVEY

on the property of

CANADIAN MAGNEMONT LIMITED

Adams Township, Ontario

Timmins, Ontario,
July 6, 1972.

R. J. Bradshaw, P. Eng.,
Consulting Geologist.

INTRODUCTION

A Ronka EM 16 survey has been completed on twenty claims held by Canadian Magnemont Ltd. in Adams Township.

The picket lines were established and the survey carried out during the period June 20th to 28th, 1972.

PROPERTY, LOCATION AND ACCESS

The claims covered by the survey include P256200 to P256203 inclusive, P256205 to P256208 inclusive, P256210 to P256217 inclusive and P279227 to P279230 inclusive.

The claim block is situated along the north boundary of Adams Township about 10 miles south of Timmins, Ontario. Adjacent claims to the east were recently surveyed by the Ronka EM 16 unit as described in a report by the writer dated April 7, 1972.

A gravel road from the old Buffalo Ankerite mine provides access to the survey area.

PREVIOUS WORK

A magnetic survey, on behalf of the R. Opatowski interests, was completed on the claims in the spring of 1971 by Shield Geophysics (See report by R. J. Bradshaw, May 13, 1971).

Apart from surface prospecting, primarily for gold, no other specific work is indicated to have been carried out on the claims according to government files.

GEOLOGY

Issued in 1969, Map P571 by the Ontario Department of

Mines, displays the geology of Adams Township. Rock exposure is exceedingly limited. The regional geology of the area is best displayed on a plan, at a scale of one inch to two miles, issued with Miscellaneous Paper 41 by the Ontario Department of Mines in 1970.

The southeast rim of a domical structure, centred in Shaw Township about 4 miles northeast, is present in the northeast sector of Adams Township. Nickel-bearing alpine type serpentinized ultramafic intrusions form the rim of the dome. The Noranda-Inco nickel deposit in Langmuir Township, currently being prepared for production, is located at the contact of a serpentinized ultramafic body.

Based on the magnetic survey, it is postulated that the area surveyed is underlain by mafic to ultramafic intrusives and altered mafic volcanic rocks.

ELECTROMAGNETIC SURVEY RESULTS AND INTERPRETATION

A plan at a scale of one inch to four hundred feet shows the survey data and conductor axes. An appendix to this report contains a description of the instrument and survey method.

Several conductive zones have been located within the area surveyed. None of the conductors coincide with a magnetic anomaly. The profiles of the dip angles do not indicate strong conductivity, although conductive overburden may account, in part, for the profile characteristics.

The conductors may be caused by shear zones or conductive overburden or a combination of these features.

CONCLUSIONS AND RECOMMENDATIONS

The dip angle profiles do not provide sufficient diagnostic properties to make a reasonable interpretation of the conductive zones, although conductive overburden and shearing seem to be the most likely cause of the anomalies.

It is proposed that a deep penetrating vertical loop survey be considered for a more adequate investigation of the area, particularly those conductors designated A & B. The cost of this work could vary between $300 and $1000 dependant upon initial results of the survey and the amount of coverage that is required.

Respectfully submitted,

SHIELD GEOPHYSICS LIMITED

R. J. Bradshaw, P.Eng.
Consulting Geologist

Timmins, Ontario,
July 6, 1972.

A P P E N D I X

ELECTROMAGNETIC SURVEY METHOD AND INSTRUMENT DATA

A Ronka EM 16, number 35, was used for the survey.

This instrument is simply a sensitive receiver covering the frequency of the new VLF-transmitting stations with means of measuring the vertical field components. The VLF-transmitting stations operate for communications with submarines at frequencies between 17.8 and 24.0 Khz. The vertical antenna current of these transmitting stations creates a concentric horizontal magnetic field around them. When these magnetic fields meet conductive bodies in the ground, there will be secondary field radiating from these bodies. This equipment measures the vertical components of these secondary fields.

The receiver has two inputs, with two receiving coils built into the instrument. One coil has a normally vertical axis and the other is horizontal.

The signal from the coil with vertical axis is first minimized by tilting the instrument. The tilt angle is calibrated in percentages. The remaining signal in this coil is finally balanced out by a measured percentage of signal from the other coil.

After a suitable station is selected, at right angles to the direction of the survey lines, readings are made of the in-phase and quadrature components where the signal has been minimized to its greatest degree. The VLF-transmitting station at Cutler, Maine, was used for this survey.

The lower end of the handle will, as a rule, point towards the conductor and the instrument is so calibrated that when approaching a conductor, the angles are positive in the in-phase component.

As with any electromagnetic unit, the largest and best conductors give the highest ratio of the in-phase and quadrature components.

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RECEIVED

JUL 11 1972

PROJECTS SECTION

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey: Electromagnetic

Township or Area: Adams Township

Claim holder(s): Canadian Magnemont Ltd.

Author of Report: R. J. Bradshaw

Address: 26 Pine St. S., Timmins, Ontario

Covering Dates of Survey: June 17-30, 1972
(linecutting to office)

Total Miles of Line cut: 13.5

SPECIAL PROVISIONS CREDITS REQUESTED

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

	DAYS per claim
Geophysical	
–Electromagnetic	40 20
–Magnetometer	
–Radiometric	
–Other	
Geological	
Geochemical	

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer _____ Electromagnetic _____ Radiometric _____
(enter days per claim)

DATE: July 6, 1972 SIGNATURE: _____
Author of Report

OFFICE USE ONLY

PROJECTS SECTION

Res. Geol. _____ Qualifications On this file

Previous Surveys 2.466 May (received linecutting credits) 71872

Checked by _____ date _____

GEOLOGICAL BRANCH

Approved by _____ date _____

GEOLOGICAL BRANCH

Approved by _____ date _____

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
P	256200
P	256201
P	256202
P	256203
P	256205
P	256206
P	256207
P	256208
P	256210
P	256211
P	256212
P	256213
P	256214
P	256215
P	256216
P	256217
P	279227
P	279228
P	279229
P	279230

½ not covered 10 days

TOTAL CLAIMS 20

If space insufficient, attach list

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS

Number of Stations 702 Number of Readings 902 (approx.)

Station interval 100'

Line spacing 400'

Profile scale or Contour intervals Profile scale: 1" - 40%
(specify for each type of survey)

MAGNETIC

Instrument

Accuracy - Scale constant

Diurnal correction method

Base station location

ELECTROMAGNETIC

Instrument Ronka EM 16

Coil configuration

Coil separation infinite

Accuracy + or - 1%

Method: ☒ Fixed transmitter ☐ Shoot back ☐ In line ☐ Parallel line

Frequency 17.8 kc. - Cutler, Maine
(specify V.L.F. station)

Parameters measured

GRAVITY

Instrument

Scale constant

Corrections made

Base station value and location

Elevation accuracy

INDUCED POLARIZATION -- RESISTIVITY

Instrument

Time domain Frequency domain

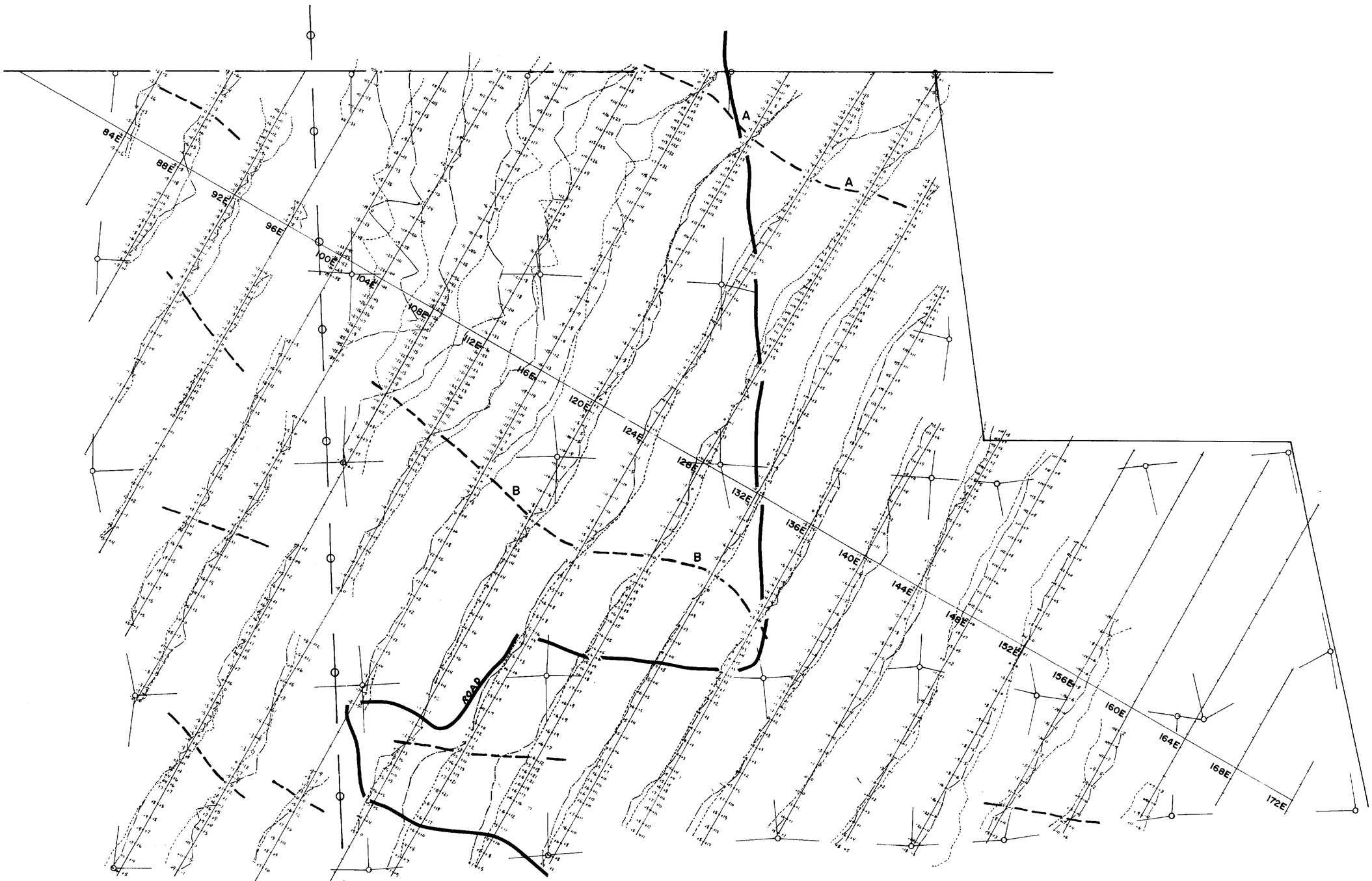
Frequency Range

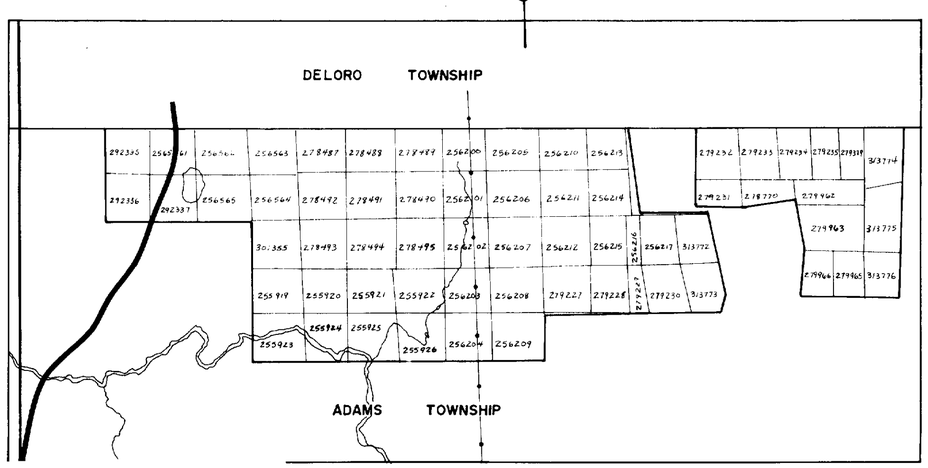
Power

Electrode array

Electrode spacing

Type of electrode





KEY MAP
one inch to one half mile

LEGEND

- Measurement station along picket line
- In phase readings (%) plotted to right of line
- Quadrature readings (%) plotted to left of line
- Profile scale: 1" = 40%
- Conductor axis

INSTRUMENT: Ronka EM 16 - No. 36; Readings taken using station NAA, Cutler, Maine.

ELECTROMAGNETIC SURVEY

ON THE PROPERTY OF

CANADIAN MAGNEMONT LTD.

ADAMS TOWNSHIP, ONTARIO

BY

SHIELD GEOPHYSICS LIMITED

SCALE

0 400 800 1200

FEET

Aug. 7, 1972

JUNE 1972

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